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## THE COMING OF AGE OF DOUBLE ENTRY: THE GIOVANNI FAROLFI LEDGER OF 1299-1300

**Abstract:** This article examines the branch ledger of a Florentine firm in 13th century Provence, and its relationship to contemporaneous Tuscan account books. It is concluded that the ledger was part of a sophisticated accounting system, with a debit and credit for every item and a serious attempt at annual balancing, thus constituting the earliest known example of commercial double entry.

In previous published papers the author dealt with the earliest evidence of business bookkeeping in Florence—the bank ledger fragments of 1211, transcribed in 1887 by Pietro Santini—and with the development of accounting in Tuscany during the 13th century, as evidenced in the account-books, or extracts therefrom, which constitute the bulk of Arrigo Castellani's *Nuovi testi fiorentini del Dugento e dei primi del Trecento* (1952). There were traced the gradual standardization of techniques, and incorporation of elements of double entry, within the framework of the “narrative” or “paragraph” type of accounting record (*a sezioni sovrapposte*), perhaps derived from the “charge and discharge” format used in public accounts. The survey ended with the emergence of double entry itself, in the ledgers of Renieri (or Rinieri) Fini & Brothers (1296-1305) and Giovanni Farolfi & Company (1299-1300). The latter's records are better preserved and more completely transcribed than the other's, and display somewhat more advanced techniques; hence they constitute the main subject of this paper.

### *The Ledger of Giovanni Farolfi & Company*

This document is preserved in Archivio di Stato, Florence, and filed under *Carte Stroziane, 2ª serie, n. 84 bis*. It consists of 56 leaves of paper, about 33 x 24 cm., consequently numbered. The first 47 leaves are lost; the extant ones run from 48 to 110, with numbers 66, 74, 87, 93, 105, 106 and 109 missing. Leaves 92, 94 and 103 are damaged in their lower halves, and 92 and 110 are out of sequence—92 bound after 96, and 110 at the beginning. In this

article reference is made to the leaves, recto (r.) and verso (v.), as in Castellani. The bookkeeper, however, numbered only the recto of each pair of facing pages, and counted them as one folio; thus, a cross-reference to an entry *nel lxiii carte* meant that the counterpart appeared on either 62v. or 63r. Some references extend beyond the extant pages, mentioning folio numbers as high as 129, and it therefore seems that less than half the book has survived.

The ledger is entirely in one hand, that of Amatino (or Matino) Manucci, one of the partners who acted as bookkeeper. The writing is neat, legible and well-preserved for the most part; but occasionally two pages have stuck together and some of the surface of one has adhered to the other, forcing Castellani to use a mirror to read the text, or to leave a lacuna where the facing page is lost. The entries are set out in lines, going close to the left-hand edge but leaving a wide right-hand margin, into which are extended the sums of money, in Roman numerals and neatly ranged in a column. In the first section of the ledger, up to page 92v., the upper half of each account contains the debits, and the lower half the credits; in the second section, from 94n., the sequence is reversed. The debits and credits are each totaled in the middle of the page, and (normally) demonstrated to be equal. As in other old Italian ledgers, all accounts are struck through with slanting lines, denoting settlement. The arithmetic, performed on the abacus or with counters, is in general very accurate. The money of account is the *livre tournois* of France, divided into 20 *sols*, and each *sol* into 12 *deniers*. The language is the Tuscan vernacular of Dante's time, recognizably like modern Italian and spelt much as today, with some abbreviation of common words. A few Provençal expressions are also found, mainly weights and measures.

### *The Business of Giovanni Farolfi & Company*

Giovanni Farolfi & Company, as appears from their ledger, were a firm of Florentine merchants whose head office was at Nîmes in Languedoc, in the kingdom of France. The ledger, however, relates exclusively to the branch at Salon, a town in the independent county of Provence, about 45 miles from Nîmes and 25 east of Arles, with a population in 1300 of some 2,000 to 3,000. It was dominated by the Archbishop of Arles, Rostang de Capre, who held the see from 1286-1303,<sup>1</sup> and was one of the Count of Provence's principal vassals. He resided often at his Château de l'Empéri, crowning the hill on which Salon stands, and appears in the Farolfi accounts as their most important customer, and largest supplier of agricultural pro-

duce. His patronage must also have shielded the Florentines from any trouble over the Church's official ban on "usury", which in any case was not seriously enforced, provided the rate of interest was not extortionate; the Archbishop himself borrowed from the Farolfi at 15 per cent per annum. Rostang de Capre was also friendly with another powerful magnate, Bertrand des Baux, Count of Avellino, who held the limestone hills of the Alpilles to the north of Arles. He is mentioned more than once, in accounts with the Archbishop, and his goodwill, if not his custom, was doubtless important to the Farolfi.

Salon's economic significance lay in its position as the chief market town between Arles and Aix, the capital of Provence. Situated in the plain north of the Etang de Berre, with its salt-pans (a monopoly of the Count's), close to the arid, pebbly wastes of La Crau with its flocks of sheep, the town was, and is, a centre of the olive oil industry, and formed an ideal collecting-point for the other bulk commodities in which the Farolfi dealt — wheat, barley, oats, wine, and wool. It was also well situated for the company's other main trade, in cloth, yarn, and dyeing materials; most of the goods were locally produced, but the finer cloths mentioned must have been imported through Marseilles. The company additionally engaged in money-lending and moneychanging, as a sideline and mainly for the accommodation of their trade customers. On one occasion the Salon branch consigned 220 quintals of merchandise (evidently bulk grain and/or oil) to Florentine in the care of the partner Ughetto Buona-guida, and paid freight of 68*l.* 8*s.* *Od.*, presumably from Marseilles.

The senior partner was Giovanni Farolfi, otherwise Giovanni Filippi or (in one place) Giovanni, son of Ubaldino; next to him ranked (it seems) Compagno (or Pagno) Franchi. Amatino (Matino) Manucci kept the books. Bacchera Baldovini was apparently in charge of the Salon branch, and was its chief buyer. Other partners were Borrino (Burrino) Marsoppi, Vitale Marsoppi, Ughetto Buona-guida, and Francesco Cavalcante. Tommasino Farolfi and Giometto Verdiglione may also have been partners, but the evidence is equivocal.<sup>2</sup> Such partnerships in medieval Italy were normally constituted for only a few years at a time, and it is not known how long the Farolfi firm lasted. The ledger shows balances brought forward from a previous one, and ending balances in 1300 closed off to the firm's account; but this may have been because the ledger was full, or because the firm kept a separate volume for each year.

Besides the Archbishop of Arles, major customers included Guillaume de Lambesc, perhaps a merchant in a little town 8 miles to the east; Gilles Vacquier, a draper in Salon; three Italian merchants,

Ghiberto Doni, Tano (Gaetano) da Figliano, and Ischiatta della Fiorentina<sup>3</sup> from L'Isle-sur-la-Sorgue in the Comtat Venaissin (the Papal territory north of Provence); and Giovanni Giuserani or Jean Jusserand — he may have been either Italian or Provensal. The main suppliers were, again, the Archbishop, Tano da Figliano and Giuserani/Jusserand, together with Tommasino Farolfi of Mondragon (north of the Comtat) and Astruc Durand Loncantaire, a Jew of Salon. Other Jews are mentioned, some as Astruc's partners; Provence and the Comtat were more tolerant of their race than was France, and they formed communities, with synagogues, in several towns. Nothing appears to be known otherwise of any of these persons.<sup>4</sup>

### *Structure of the Farolfi Accounting System*

From the surviving ledger it is evident that it was only one account-book among several. The first half contained the debtors' and expenditure accounts, and the debit side of the head office account, which on closure of the ledger became the balance account. In the second half were the creditors' and profit accounts, and the credit side of the balance account. The total of the latter was carried to page 92v. and compared with the total of the debit half; theoretically they should have been equal, but were not, for reasons given later.

In both halves of the General Ledger (as it may conveniently be called) the earlier accounts show balances transferred from a "White Ledger" (*quaderno bianco*), with cross-references to numbered folios therein, ranging from 23 to 99. The folios up to 69 refer to debit balances, those from 70 upwards to credit ones. This White Ledger must therefore have been an earlier volume of the General Ledger, divided similarly into two halves, rather than (as Castellani thought) "a waste-book of prime entry" (*uno scartafaccio di prima nota*). Since the balances were transferred directly from the old personal accounts to the new, it seems clear that the old ledger had no closing balance account; nor was there an opening one in the new volume, such as is found in the Peruzzi ledger of 1335-43.

From numerous references it is apparent that the main merchandise accounts — for wheat, barley, oats, olive oil, wine, wool, and yarn — were contained in a separate "Red Book" (*libro rosso*); folio numbers from 14 to 141 are mentioned. These accounts were debited with purchases (in the front of the ledger) and credited with sales (in the rear half), and closing inventory balances were transferred to the debit of the balance account in the General Ledger. The Profits Account (*avanzi*) was in the last pages (127-129) of the

General Ledger, which are lost; it would seem that any excess of credits over debits in the Red Book accounts was transferred at intervals to the credit of Profits, and any contrary excess to the debit of Current Expenses (*spese corse*). Indeed, the latter account is debited on 20 June 1300 with 95*l.* 4*s.* 5*d.* "which we lost on wheat that we purchased", cross-referenced to Red Book, folio 22. In many General Ledger accounts, though, a debit for goods sold to a customer is followed by a statement that "we have a bill made by the hand of Maître Bertand Arnaud (*maestro Bertrano Arnaldi*), notary of Salon". There is usually no cross-reference to any other account or book. The account is balanced, then follows the statement: "It shows that for us there is a profit of (so much): we added to Profits, further on at folio 129". This sum appears to stand outside the debtor's account, which balances without it, and thus to constitute a mere memorandum in that place. The credit to Profits cannot now be followed through, and the question arises: where was the corresponding debit? The most likely hypothesis, on the whole, is that it was made in (say) the Wheat Account in the Red Book, as representing the gross margin on the sale; the bill of exchange was used as the posting medium — hence the lack of a reference to the credit for the sale in the Red Book. This belief is strengthened by consideration of the order of amounts involved, and by a curious piece of evidence on page 77r. Beside an account showing a sale of 15*l.* Os. Od., with a profit noted as 3*l.* 5*s.* Od., there appear in the left margin the *Arabic* figures 11 and 15, vertically. These look like a note of the cost price, 11*l.* 15*s.* Od., taken from the Red Book on the debit side.

A third book is referred to once — the Cloth Ledger (*quaderno dei panni*). This obviously contained merchandise accounts (as in the Red Book) for various kinds of cloth. The references (to folio 4 and 16) occur in an account for Druggets (*sargie*) at page 63v., the beginning of which is mutilated; the debit and credit totals from the Cloth Ledger have been transferred here, and further sales entered, with a profit figure (credited to Profits) which appears arithmetically wrong. The balance account in the General Ledger shows no debits for ending inventories of cloth; presumably there were none left. Apart from the Druggets Account, moreover, there are several debits to customers for cloth sales, without cross-references; bills have been drawn up by Maître Arnaud, as described above.

A fourth book was the Expenses Ledger (*quaderno delle spese*); there are references to folios from 6 to 37. It seems to have contained accounts relative to fixtures (*masserizie*) and current ex-

penses (*spese corse*), and possibly other items. Corresponding entries appear in the General Ledger; then the closing totals of the Expenses Ledger accounts have been transferred to Fixtures, and Current Expenses, Accounts, and further entries made therein, as with the Cloth Ledger.

Last among the main books of account was the Cash Book (*libro dell'entrata e dell'uscita*). This is never mentioned in the text, and no folio references to it are given for the numerous debits and credits relating to cash paid and received, or for the sum of 1l. 10s. Od. transferred at 16 August 1300 to the debit of the balance account. This item is described as moneys, "which we gave them in cash in Nîmes: Matino counted it out." It must be the final cash balance, as it follows a series of debits for ending inventories of various goods, from the Red Book. The Cash Book was probably in the form then standard in Italy, with receipts in the front half, payments in the rear half, and periodical balancing of the two totals. The absence of folio references in the General Ledger is explained by the relative ease of referring back to the Cash Book by dates alone; there would, for obvious reasons, have been ledger references in the Cash Book.

These five books — general ledger, two merchandise ledgers, expenses ledger, and cash book (with the White Ledger as a sixth) — constituted what looks very like a true double entry system, though for the Salon branch only. In addition there were at least two subsidiary books, occasionally referred to in the General Ledger. The first was the *libro piloso*, a term which, curiously, occurs also in the contemporary Fini ledger, in what seems to be the same sense. The best translation, in the author's judgment, is "Plush Book", taking *pelo* (*pilo*) to mean (as in Edler) the nap or "pile" on cloth. It was kept by the partner Borrino Marsoppi, evidently as a memorandum book of business expenses out of pocket; folio numbers from 5 to 55 are mentioned. It was periodically summarized, and the total debited to Expenses and credited to Borrino's account. The second subsidiary book was the "Memorandum Ledger" (*quaderno memoriale*), for which no folio references are given. There are only three entries from it in the General Ledger; they concern out-of-pocket expenses of partners other than Borrino Marsoppi, and the Memorandum was presumably a generalized form of his Plush Book.

All these records add up to a bookkeeping system of uncommon sophistication, even by contemporary Italian standards. Wonder grows when one remembers that these were the books of one branch only of a sizeable mercantile enterprise, and they arouse in

the inquirer a strong, but fruitless, desire to know what elaborate arrangements must have been in force at the Nîmes head office of the company.

### *The Farolfi Ledger and the Evolution of Double Entry Bookkeeping*

It has long been recognized by accounting historians that double entry bookkeeping did not suddenly appear in Genoa in 1340, and is most unlikely to have had any single inventor. Examination of Tuscan account-books, business and private, of the 13th century by Federigo Melis and Raymond de Roover, as well as by Arrigo Castellani, has revealed considerable sophistication and increasing systematization in the "paragraph" format, and done much to correct the view of earlier historians, such as Edward Peragallo, that there was little systematic business accounting before the rise of the great Florentine banking houses and cloth manufacturers of the 14th century. The present author has entered into his great predecessors' labours, and in a previous study traced the emergence, between 1211 and 1296, of the main components of double entry.

These may be identified, in descending order of obviousness, as:

- (1) the concept of the individual proprietor or (more clearly) the business partnership as an *accounting entity*, whose books record its financial relationships with other economic agents;
- (2) the concept of *algebraic opposition*, firstly between increases and decreases in a physical holding of cash or goods, secondly between increases and decreases in the level of indebtedness by or to another economic agent or entity, thirdly between indebtedness by, and to, other entities in general, and fourthly, and least obviously, between assets and liabilities of the entity accounted for;
- (3) the concept of a *single monetary unit*, to which amounts in other currencies are converted, thus making the entries additive overall;
- (4) the concept of *proprietors' equity*, as the algebraic sum of assets and liabilities;
- (5) the concept of *profit or loss*, as the net increment or decrement to equity resulting from one or more acts of exchange between the entity and its economic environment (excluding the proprietors); and
- (6) the concept of an *accounting period*, over which profit or loss may be measured.



It would be flying in the face of the evidence to suggest that these ideas were all considered of equal importance, or that there was any steady and consistent progress in adopting them, among the businessmen of 13th century Florence. No-one had any theory as to what an accounting system ought to be, or if he had it was never put into writing, as far as anyone knows. Each man of substance kept whatever records he needed for his own purposes, with little regard for overall coherence or consistency. He was concerned mainly to keep track of his current position with respect to cash, debtors and creditors, and sometimes his investment in the family firm. There are no nominal or equity accounts in early private ledgers, and no means of ascertaining either the wealth of the owner at any time, or his income or expenditure over any period. The only basic concepts followed with any consistency are those of the accounting entity (the proprietor himself), and of algebraic opposition between increments and decrements to the balances of individual debtors' and creditors' accounts (including interest receivable and payable), and presumably to cash balances, though no private cash books have survived. Not all account-books adhere closely to the concept of a single monetary unit. Some use the silver florin as the unit, and convert gold florins at the rate (from 1277) of 1 gold florin = 29 silver *soldi*; but others, such as that of Gentile de' Sassetti and his sons (1274-1310), use a mixture of currencies — gold florins, silver florins, and Pisan silver *piccioli* — with little attempt to unify them, though the same unit is normally used for all entries in a given account. Some loan accounts are balanced at the same date each year (as in the first ledger of Bene Bencivenni, 1262-75), but only, it seems, in order to compute interest.

Remains of 13th century Italian business accounts are very fragmentary, and have survived only by various accidents. Banking and mercantile partnerships were formed for only a few years at a time, and when the firm was wound up and partners' shares paid out to them, no-one was concerned to preserve the books. Indeed there was an incentive, owing to the dearth of parchment, to scrape or wash the pages and reuse them — as in the case of the 1211 bank ledger pages, utilized as flyleaves to a 14th century legal MS. About the only other first-hand documents of the period are fragments of the Detacommando ledger at Poppi (1241-72), of a creditors' journal at Imola (1260-62) (both very crude), and a memorandum book of the Ugolini Company of Siena (1255-62), together with two cash books — of an unknown Sienese firm of 1277-82, and of Pope Nicholas III's treasurer in the Marches, 1279-80 — and inven-

tories of stock, cash and book debts of the Lucca and Pisa branches of a Florentine cloth-merchants' firm, 1278-79. (The two last have been transcribed by Castellani). At second hand, we have 13th century transcripts of two bankers' ledger extracts, for use in law-suits — a deposit account from the ledger of the Borghesi Company (1259-67), and a loan account from that of the Peruzzi Company (1292-93). At one further remove, there are "mirror images" in private ledgers, of a partner's drawings account, 1285-96 (Bene Bencivenni's second ledger, 1277-96), and of his capital account (Gentile de' Sassetti and his sons, 1274-1310).

From this scanty testimony it would be hazardous to form any dogmatic conclusions as to the evolution of accounting at this period. Yet evidence emerges of the gradual acceptance and application by entrepreneurs and their bookkeepers — often one and the same person — whether consciously or not, of the six concepts formulated above, and of their progressive convergence to form a coherent system, approximating to double entry. The first three are already present in the 1211 ledger: (1) the firm is clearly distinguished from outsiders; (2) there is offsetting, not only of increments and decrements to the same account balance but as between loan and deposit account balances, and there are even quite complex transfers between different customers' accounts in settlement of liabilities to third parties; and (3) all entries are in Pisan currency, with many intricate conversions of sums in Bolognese, Veronese, German Imperial, French, English and Arabian coin. The tightly-knit *Arte di Cambio* of Florence was unlikely to have let such knowledge remain the preserve of any one firm, nor yet to have allowed it to perish. What little we know of later 13th century business accounts shows building on these foundations, and the addition of the other three basic ideas.

All are exemplified in the private ledger counterpart of Gentile de' Sassetti's capital account with Sassetti Azzi & Company. It started at 1 January 1278-79 (the year then began officially on 25 March) with a balance, in silver florins, of 2,583 *libbre*, 12 *soldi*, 0 *denari*, which grew to 4,926*l.* 14*s.* 0*d.* at 6 May 1284, when it was paid out in cash. On 8 May 1284 Gentile invested 4,000*l.* 0*s.* 0*d.* in a new partnership with the same firm, and on 1 January 1289-90 this, too, was liquidated, with a payment to him of 4,012*l.* 17*s.* 0*d.* The account is consistently balanced at 1 January in each year (except 1281-82), when it is debited (credited, in the firm's books) with interest at 8 per cent per annum on the opening balance. To this is added, up to 1 January 1282-83, a share of profit, in a round sum plus a supplementary broken amount after the first year; after 1283

there is only interest. Drawings for the year are credited at 1 January (debited in the firm's books). The total gain to Gentile from the first partnership was 4,295*l.* 8*s.* 0*d.*, and from the second 1,810*l.* 11*s.* 0*d.* (subject to three small arithmetical errors) — altogether, 6,105*l.* 19*s.* 0*d.* From this record one may deduce that Sassetti Azzi & Company's accounting system not only incorporated concepts (1) to (3) above, but also included: (4) a capital account for each partner; (5) regular ascertainment and division of profit and loss; and (6) annual balancing of the partners' accounts, if not of the books as a whole. What cannot be proved is that the firm used double entry. More probably, the partners at the year-end totaled the assets and liabilities, deducted the latter from the former, then subtracted the opening balances on the capital accounts, and added back the partners' drawings, less any capital contributed during the year. The result was a sufficient approximation to the annual profit or loss, which was then divided, and credited or debited to the capital accounts (which were debited with drawings). Such was the common practice in Florence in the first half of the 14th century, as shown in the *libro segreto* of the Alberto del Guidice Company, 1302-29.

None of this, however, precludes the use in such books of nominal accounts, debited with expenditure and losses (*disavanzo*) and credited with revenue and profits (*avanzo*). Theoretically, the excess of the latter over the former should have been equal to the excess of closing net assets over opening capital, plus contributions, minus drawings, for the year; but this happy result could seldom, if ever, have been achieved in medieval Italy, owing to the bookkeeper's propensity for making one-sided adjustments, and to human error. Hence there was almost always a difference between total debits and total credits; if it was not too large the bookkeeper was satisfied, and adjusted the profit total to fit. In the Sassetti Azzi ledger there may have been a preliminary computation of profits as *avanzo* less *disavanzo*, with round-number "dividends" transferred to capital accounts, followed by a more precise calculation, and adjusting entries; but without the books there is no way of settling the question.

Of nominal accounts there is no direct evidence before the Peruzzi ledger extract of 1292-93. This includes a debit to Giovanni Gianfigliazzi's loan account in respect of interest, 27*l.* 10*s.* 0*d.*, stated to be added "to profit (*avanzo*) in the small ledger (*quadernetto*) at (folio) 3". The first extant ledger to include such accounts comes, though, not from Italy but from France; it is nevertheless in Italian, and preserved in Archivio di Stato, Florence, un-

der *Capitani d' Orsammichele*, n. 220. It has been partly transcribed by Arrigo Castellani.

The ledger is that of Renieri (Rinieri) Fini de' Benzi & Brothers, and extends from 1296 to 1305. The three brothers, Baldo, Renieri (who wrote most of the ledger) and Schiattino, were the sons of Fino de' Benzi, from Figline in Val d'Arno. The two elder sons had been factors to Biccio and Musciatto Franzesi, financiers to Philip IV of France (1285-1314), and all three brothers were merchants and moneylenders at the Fairs of Champagne. Unfortunately the MS., of some 91 leaves of paper, is in poor condition; also, Castellani transcribed only the entries up to 1300 — about one-fifth of the whole.

Accounts with debit balances appear in the first half, those with credit balances in the second. In both halves are accounts for Renieri Fini, who was cashier as well as bookkeeper; they seem to be the two sides of the Cash Account. The debtors' accounts relate mainly to loans at the Fairs of Champagne, but include a loan of 16,000 *livres tournois* to the King of France in 1299. The second half of the ledger has an account for "Baldo Fini and his brothers"; credits include five years' "salary" at 200 *livres* per annum, paid to Renieri by "Biccio Franzesi and his Franzesi partners". More significantly, nominal accounts are found for the first time — in the first half, for Interest (payable) and for Expenses of Clothing and Footwear, and in the second half for Profit (*avanzo*), mainly interest receivable. All the entries, so far as can be traced, have counterparts in personal accounts, or in Renieri Fini's cash account. The ledger thus exhibits a combination of accounting *a sezioni sovrapposte* with double entry, in the sense that every debit has its credit and vice versa, at least in intention, and that impersonal, as well as personal, aspects of transactions are dealt with. What is missing is any evidence that the ledger was ever balanced. The accounts, as far as they have been transcribed, appear to run on from year to year, with no general closing off, no striking of annual or other balances of profit or loss, and no transfers of nominal account balances to capital; nor does there seem to be any partitioning of equity between the partners. Perhaps these matters were settled when the ledger was full or the firm was wound up, and judgment must be suspended until a complete transcript of the surviving entries is to hand.

With the doubtful exception of the Fini ledger, then, evidence for full double entry before 1299 is tenuous to say the least. The lack of accounting periods of fixed length is not, however, a fundamental objection to the classification of an accounting system as double

entry; the Florentines made use of them from the 14th century, but the Venetians, for example, did not, and Luca Pacioli (1494) did not prescribe them. What matters is that *at some stage* all balances on a ledger shall be brought together in one view, debits against credits, and some genuine attempt be made to prove the two totals equal. If that is done, even without complete success in the last point, then the system complies with concept (6) above, and shows an accounting period over which profit or loss can be measured — even if that period is merely the time from opening, to closing, of a volume of the ledger. This process one cannot find in the Fini accounts and, pending further research, must refuse to certify them as true double entry. It will now be demonstrated that the Farolfi ledger exhibits all six of the basic concepts, including final balancing, and that the system therefore qualifies as the earliest proven example now extant of commercial double entry bookkeeping.

### *The Giovanni Farolfi Accounts As a Double Entry System*

Like the Fini ledger, the Farolfi one includes “real” and “nominal”, as well as “personal”, accounts. The goods accounts now accessible comprise the Druggets Account (for purchases and sales of coarse woollen cloth), and several accounts for purchase and resale of individual packhorses. Both are stated, rather quaintly, to be “due to give” their purchase prices, and to “have given” their sale proceeds — a sign that the conventional bookkeeping formulae were losing their literal meanings and becoming purely indicators of the difference between debit and credit. The nominal accounts are more interesting than in the Fini ledger. There are separate ones for Fixtures (debited with purchases and credited with proceeds of sale — both items brought forward from the Expenses Ledger), Expenses of Eating and Drinking, and Current Expenses, the two latter being more conventional.

Most extraordinary for so early a date is the presence of four accounts for prepaid rent on various premises. In the case of a warehouse rented from Pierre Guillaume, for example, 16 *livres* were paid on 17 May 1299, for four years in advance; this sum was transferred from the old White Ledger to the debit of the rent account. At 17 May 1300 one year’s rent, 4 *livres*, was credited to the account and debited to Current Expenses. At the closing of the ledger the remaining 12 *livres* were transferred, as an open balance, to the debit of the balance account. Similar treatment was accorded to advance rent of a shop (12 *livres* for four years — 3 *livres* written off); of a second warehouse, 1*l.* 10*s.* 0*d.* for one year (all written off);

and, more subtly still, to the balance of 4 *livres* (out of 12 *livres* paid in advance for three years on 6 October 1297) for a second shop. Such a grasp of the principles of revenue/cost matching in relation to time-based expenditure would have been creditable four or five centuries later; in 1300 it seems to border on the miraculous.

Posterity has been less fortunate as regards the total loss of the Profits Account, which was credited separately on folios 127 to 129. The author has listed all the extant debits cross-referenced to it, totalling 127*l.* 8*s.* 8*d.*; but there must also have been gross profit figures transferred from the now-lost Red Book and Cloth Ledger.

Finally comes the acid test of any alleged double entry system — the balancing process. Amatino Manucci does not disappoint. On page 88r. begins an account headed *Giovanni Farolfi e' compangni n(ost)ri di Nimmi*. To its debit side are transferred almost all the debit balances open on the General Ledger to that point, including some on missing folios (2 to 7) at the beginning, after which there is an abrupt jump to the extant part of the ledger, from folio 48 onwards. The account continues to the bottom of page 90v., with each page separately totalled; on page 91r. comes a summary of open debit balances on the Red Book — ending inventories of produce — followed by what is clearly the ending balance of cash in hand, from the Cash Book. (Balances on the Cloth Ledger and Expenses Ledger have already been taken up into the General Ledger.) Page 91v. sweeps up a few debit balances previously overlooked, or added after the balancing began, then summarizes the totals of pages 88r. to 91r., making a grand total of 2,745*l.* 6*s.* 1*d.* *tournois*.

The credit side of this balance account is, exasperatingly, lost; it occupied folios 111 to 114, tantalisingly just beyond where the MS. ends. It is clear that it summarized all the open credit balances in the second half of the General Ledger, for there are many cross-references to it. The extant ones total to 2,846*l.* 9*s.* 5*d.*, and there must have been others, yet the credit balance brought forward to page 92v. (the grand summary) is only 2,762*l.* 19*s.* 0*d.* There is no obvious explanation for the discrepancy of 83*l.* 10*s.* 5*d.*; inclusion of the missing Profits Account credit balance would increase, not diminish, it. If the total is right, then folios 115 to 129 must have contained debits, and there is at first sight nowhere whence they could legitimately have come. On the other hand there are no references to any folios from 115 through 126, and there may have been adjustments here — perhaps partners' drawings in cash, debited to personal accounts and transferred to the debit of the balance account on folios 111 to 114, either directly or via the Profits Account.

The grand summary on page 92v., then, begins with a credit total of 2,762*l.* 19*s.* 0*d.*, dated 4 August 1300. Against it is set the debit total from page 91v., 2,745*l.* 6*s.* 1*d.*, dated 27 June 1300. To this is added an unreferenced debit of 42*l.* 6*s.* 0*d.*, described as interest on the preceding sum at 15 per cent per annum up to 4 August; it does, in fact, work out very closely as 15 per cent per annum on 2,745*l.* 6*s.* 1*d.* from 27 June to 4 August. This interest was evidently designed to bring both totals to a common basis as at 4 August, and to offset interest at the same rate already debited to Current Expenses and credited to Giovanni Farolfi & Company, up to 1 September 1300; 15 per cent was presumably an estimate of a fair rate of return on the capital invested in the branch, and one which had to be earned before a net profit was recognized. The somewhat muddled adjustment of 42*l.* 6*s.* 0*d.* ranks in double-entry terms as a one-sided entry; it should also have been credited to Profits, and seemingly has not been. Hence, if it is ignored, the apparent difference on the books is 17*l.* 12*s.* 11*d.* excess of credit over debit.

Close scrutiny of the General Ledger, with translation into modern two-sided accounts and careful checking of casts and postings, has revealed to the author several errors, of arithmetic and of principle, which would in any case have vitiated the balance. There are also a large number of entries on both sides that seem at first sight to have no counterparts. From these one can at once eliminate the cash items — they must have gone through the Cash Book. There are likewise many unreferenced purchases and sales of goods, especially where a bill of exchange was accepted in payment; again, there must have been corresponding entries in the Red Book or Cloth Ledger, otherwise the inventory balances would not have agreed with the physical stocks.

If the obvious bookkeeping errors are first adjusted, the apparent difference on the General Ledger is reduced as follows:

Page 92v. Credit total	
brought forward, 4/8/1300	2,762 <i>l.</i> 19 <i>s.</i> 0 <i>d.</i>
Less Page 62r. Credit entered	
twice, only one debit 40 <i>l.</i> 2 <i>s.</i> 10 <i>d.</i>	
Pages 75v., 96r., 96v.	
and 102v.	
Four small arith-	
metical errors	2 <i>l.</i> 11 <i>s.</i> 2 <i>d.</i>
	42 <i>l.</i> 14 <i>s.</i> 0 <i>d.</i>

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<i>Revised credit total</i>	2,720 <i>l.</i>	5 <i>s.</i>	0 <i>d.</i>
Page 92v. Debit total			
brought forward, 27/6/1300	2,745 <i>l.</i>	6 <i>s.</i>	1 <i>d.</i>
Less Page 84r. Debit entered			
twice, only one			
credit	40 <i>l.</i>	0 <i>s.</i>	0 <i>d.</i>
Pages 63r. and 88v.			
Two small arith-			
metical errors	1 <i>s.</i>	1 <i>d.</i>	
	40 <i>l.</i>	1 <i>s.</i>	1 <i>d.</i>
<i>Revised debit total</i>	2,705 <i>l.</i>	5 <i>s.</i>	0 <i>d.</i>
<i>Revised apparent difference</i>			
<i>(credit exceeds debit)</i>	15 <i>l.</i>	0 <i>s.</i>	0 <i>d.</i>

Now, as it happens, there is one credit of exactly 15*l.* 0*s.* 0*d.* with no cross-reference to a corresponding debit. It occurs on the very first extant page, 48r., in the account of the Archbishop of Arles, and is described as an allowance to him "for harvesting the wheat at Miramas and Saint-Chamas", as at 10 June 1299. If this credit is indeed one-sided, *and there are no further errors*, then after debiting Current Expenses 15*l.* 0*s.* 0*d.* one can balance the books of Giovanni Farolfi & Company to the exact *denier* as at 4 August 1300!

It is only fair to point out that there are several small items which may or may not be errors vitiating the balance. In the account of Tommasino Farolfi on page 63r., the debits as given add up to 10*l.* 0*s.* 0*d.* more than the given total; the latter agrees with the (correct) credit total. Among the debits, though, are two largeish cash payments, and either may have been transcribed or printed with one x too many in the *livres* — only a sight of the MS. would confirm or deny this. Similar errors, of 10*s.* 0*d.* and of 1*s.* 0*d.*, occur in the Druggets Account (page 65v.); again, without seeing the Ms. one does not know whose errors they are.<sup>5</sup> Also there are two entries which seem to be one-sided, but may not be — a credit to Gilles Vacquier (page 65r.) of 10*s.* 0*d.* for an allowance on a horse, referenced to Current Expenses and probably debited in the Expenses Ledger; and a credit to Expenses of Eating and Drinking (page 83r.) of 1*l.* 12*s.* 0*d.* for flour and salt meat on hand at the balancing date and not, it seems, transferred elsewhere. With these doubtful exceptions, then, the ledger as we have it can be balanced precisely; even if they are errors, there must have been others exactly offsetting them in total, which cannot now be investigated.



## Conclusion

On any showing, the bookkeeping system of Giovanni Farolfi & Company for the Salon branch in 1299-1300 is a most remarkable achievement for its time. Within the conventions of the traditional Tuscan paragraph format of accounts, long favoured as being more economical of writing material than the Venetian-Genoese two-sided presentation (*a sezioni contrapposte*), Amatino Manucci has managed to construct a comprehensive and fully-articulated set of double-entry records, with a regular balancing procedure on closure of the General Ledger, marred only by a few human errors. Nor was the aspect of financial control neglected. The books were logically subdivided, with segregation of cash and goods accounts from the main ledger, a perpetual inventory of each line of agricultural produce and each grade of cloth or yarn dealt in, and full records of debtors and creditors, expenses, profits, interest and partners' drawings, as well as the state of account with the head office at Nîmes, and an estimate (15 per cent per annum) of the expected rate of return on capital employed. Perhaps it was these aspects that most concerned the partners, and the balance of the ledger was of secondary importance; if it agreed within a reasonable tolerance, it was accepted.

To the author's mind, the doubts expressed by Melis, Castellani, Raymond de Roover, and Vlaemminck have been cleared up, and double entry bookkeeping stands revealed as a product of 1300 at latest, rather than 1340. The mystery remains as to how, and on what models, Amatino evolved his system, and as to why it was not adopted in full rigour by other Florentine firms before the second half of the 14th century. Yet it is clear, on the evidence, that the Farolfi ledger stands in the line of succession that leads on from the untidy, but surprisingly sophisticated, bank ledger of 1211, and that the basic ideas of rational accounting, painfully worked out in the 13th century, came together and were fully integrated into that matrix of information which we know as double entry. In short, the books of Giovanni Farolfi & Company are established as one of the major monuments of early accounting history, and Amatino Manucci as surely a strong candidate for any future International Accounting Hall of Fame.

## FOOTNOTES

<sup>1</sup>*Dictionnaire d'histoire et de géographie ecclésiastiques: Tome 4, art. Arles* (Paris, 1930). No particulars are given beyond the name and dates.

<sup>2</sup>Only Pagno and Bacchera are otherwise known, from the books of the Gianfigliuzzi Company in Dauphiné and Provence, 1320-25 (see bibliography, items 1 and 5).

<sup>3</sup>"Son of the Florentine woman"—perhaps illegitimate.

<sup>4</sup>Letters to the author from Mm. G. Giordanengo, editor of *Provence historique*, and R. H. Bautier, author (with J. Sornay) of *Les sources de l'histoire économique et sociale du moyen âge* (Paris, from 1968). Tome 1: *Provence, etc.* refers to the Farolfi ledger, but gives no additional information. The archives of Salon do not go back to 1300.

<sup>5</sup>The author has discovered a similar error (*libbre ii* printed as *libbre li*) in P. Santini's transcript of the 1211 bank ledger fragments (see refs. 2, 8 and 9). It had been unnoticed by two later editors of the Italian text.

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